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Docket: C1039/7057(HCL/MAT)

SEQUENCE LISTING

<110> Davis, Heather L.
Krieg, Arthur M.
Schorr, Joachim
Wu, Tong

<120> Vectors and Methods for Immunization or
Therapeutic Protocols

<130> C1039/7057 (HCL/MAT)

<140> not yet assigned

<141> - -

<150> US 09/082,649

<151> 1998-05-20

<150> US 60/047,233

<151> 1997-05-20

<150> US 60/047,209

<151> 1997-05-20

<160> 84

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09965104.092604

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 <223> Has a phosphorothioate backbone.

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0995101.092501

<212> DNA
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<220>
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0996101 099604

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<210> 20

<211> 38

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic oligonucleotide

<400> 20

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38

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<211> 37

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<210> 23

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09965101-092607

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<210> 24
<211> 29
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<220>
<223> synthetic oligonucleotide

<400> 24
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<210> 25
<211> 20
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<220>
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tcgtttctgt aatgaaggag 20

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<220>
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<220>
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cattattcat tcgtgattgc g 21

<210> 30
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<220>
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<400> 30
acgtctcagg aacactgccca gcgc 24

<210> 31
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<220>
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<400> 31
agggatcgca gtggtgagta 20

<210> 32
<211> 21
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<220>
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<400> 32
tataaaatgc ttgatggtcg g 21

<210> 33
<211> 35
<212> DNA
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<220>

09965104-092604

<223> synthetic oligonucleotide

<400> 33
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<210> 34
<211> 20
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<213> Artificial Sequence

<220>
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<400> 34
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<210> 35
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<212> DNA
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<220>
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<400> 35
tacattatcg cgagccatt 20

<210> 36
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic oligonucleotide

<400> 36
tggcctcgac gtttccggt 19

<210> 37
<211> 29
<212> DNA
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<400> 37
atcgaattca gggcctcgtg atacgccta 29

<210> 38
<211> 39
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09965104.092601

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<400> 39
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<210> 40
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<220>
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<400> 40
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<400> 41
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<210> 42
<211> 37
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0995401 099501

<400> 43
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<211> 38
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<400> 45
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<210> 47
<211> 39
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<400> 47
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<220>
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<400> 48

09955101 092501

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38

<210> 49
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<213> Artificial Sequence

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<400> 49
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<210> 50
<211> 38
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<400> 50
acgggaaacg tcgaggccac gattaaattc caacatgg

38

<210> 51
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<221> misc_feature
<222> (0)...(0)
<223> Has a phosphorothioate backbone.

<400> 51
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20

<210> 52
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic oligonucleotide

<221> misc_feature
<222> (0)...(0)
<223> Has a phosphorothioate backbone.

<400> 52
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20

<210> 53
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09265101.092604

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> synthetic oligonucleotide

 <400> 53
 tccaggactt tcctcaggtt 20

 <210> 54
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 <220>
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 <400> 54
 tccaggactt ctctcaggtt 20

 <210> 55
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 <212> DNA
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 <220>
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 <400> 55
 cccccccccc cccccccccc 20

 <210> 56
 <211> 20
 <212> DNA
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 <220>
 <223> synthetic oligonucleotide

 <221> misc_feature
 <222> (0)...(0)
 <223> Has phosphodiester backbone.

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 tccatgacgt tcctgacgtt 20

 <210> 57
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> synthetic oligonucleotide

 <400> 57
 ggcggcggcg gcggcggcgg 20

09065101.092604

<210> 58
 <211> 20
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 <213> Artificial Sequence

<220>
 <223> synthetic oligonucleotide

<221> misc_feature
 <222> (0)...(0)
 <223> Backbone is phosphorothioate--phosphodiester chimera

<400> 58
 tccatgacgt tcctgacgtt 20

<210> 59
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetic oligonucleotide

<221> misc_feature
 <222> (0)...(0)
 <223> Has SOS-ODN backbone with two S-linkages at the 5' end, five S-linkages at the 3' end, and O-linkages in between.

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 ggggtcaacg ttgagggggg 20

<210> 60
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<220>
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<400> 60
 tctcccagcg tgcgccatat 20

<210> 61
 <211> 21
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<220>
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<400> 61
 ggggtctgtg cttttggggg g 21

00965101.092604

<210> 62
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 <220>
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 <400> 62
 tcaggggtgg ggggaacctt 20

 <210> 63
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 <220>
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 <400> 63
 ggggttgacg ttttgggggg 20

 <210> 64
 <211> 20
 <212> DNA
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 <220>
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 <400> 64
 tctagcgttt ttagcgttcc 20

 <210> 65
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 <220>
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 <400> 65
 tcgtcgttgt cgttgctcgtt 20

 <210> 66
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> synthetic oligonucleotide

 <221> misc_feature
 <222> (0)...(0)
 <223> Backbone is a phosphorothioate--phosphodiester
 chimera.

09965104.092604

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<210> 67
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic oligonucleotide

<400> 67
tcgtcgttgt cgttttgtcg tt 22

<210> 68
<211> 20
<212> DNA
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<220>
<223> synthetic oligonucleotide

<221> misc_feature
<222> (0)...(0)
<223> Has a phosphodiester backbone.

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<210> 69
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> synthetic oligonucleotide

<400> 69
gcgttttttt ttgcg 15

<210> 70
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<220>
<223> synthetic oligonucleotide

<400> 70
tccatgagct tcctgatgct 20

<210> 71
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<213> Artificial Sequence

09965101 092601

<220>
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<220>
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<400> 72
tccatgtcgt tcctgatgcg 20

<210> 73
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<220>
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tccatgtcgt tccgcgcgcg 20

<210> 74
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<220>
<223> synthetic oligonucleotide

<400> 74
tccatgtcgt tcctgccgct 20

<210> 75
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<220>
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<400> 75
gcggcgggcg gcgcgcgccc 20

<210> 76
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09965101 0996501

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<210> 77
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<400> 77
ccggccggcc ggccggccgg 20

<210> 78
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<400> 78
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<210> 79
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<220>
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<400> 79
tccatgacgt tcctgatgct 20

<210> 80
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<220>
<223> plasmid DNA wild-type Kanamycin resistance gene

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caataaaact gtctgcttac ataaacagta atacaagggg tgttatgagc catattcaac 180
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atgcgccaga gttgtttctg aaacatggca aaggtagcgt tgccaatgat gttacagatg 360
agatggtcag actaaactgg ctgacggaat ttatgcctct tccgaccatc aagcatttta 420
tccgtactcc tgatgatgca tggttactca ccactgcgat ccccgaaaaa acagcattcc 480

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gtctcgctca	ggcgcaatca	cgaatgaata	acggtttggt	tgatgcgagt	gattttgatg	660
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atcttgccat	cctatggaac	tgccctgggtg	agttttctcc	ttcattacag	aaacggcttt	900
ttcaaaaata	tggatttgat	aatcctgata	tgaataaatt	gcagtttcat	ttgatgctcg	960
atgagttttt	ctaatacagaa	ttggttaatt	ggttgtaaca	ctggcagagc	attacgctga	1020
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agcgtcagac	cccgtagaaa	agatcaaagg	atcttcttga	gatccttttt	ttctgcgcgt	1140
aatctgctgc	ttgcaaacaa	aaaaaccacc	gctaccagcg	gtggtttggt	tgccggatca	1200
agagctacca	actctttttc	cgaaggtaac	tggtctcagc	agagcgcaga	taccaaatac	1260
tgttcttcta	gtgtagccgt	agttaggcca	ccacttcaag	aactctgtag	caccgcctac	1320
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<210> 81

<211> 1360

<212> DNA

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<220>

<223> plasmid DNA mutant Kanamycin resistance gene

<400> 81

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caataaaaact	gtctgcttac	ataaacagta	atacaagggg	tgttatgagc	catattcaac	180
gggaaacgtc	gaggccacga	ttaaattcca	acatggatgc	tgatttatat	gggtataaat	240
gggctcgcg	taatgtagg	caatcaggtg	cgacaatcta	tcgcttgat	gggaagccag	300
atgcgccaga	gttgtttctg	aaacatggca	aaggtagcgt	tgccaatgat	gttacagatg	360
agatggtcag	actaaactgg	ctgacagaat	ttatgcctct	tcccaccatc	aagcatttta	420
tacgtactcc	tgatgatgca	tggttactca	ccactgcgat	ccctggaaaa	acagcattcc	480
aggtattaga	agaatatacct	gattcaggtg	aaaatattgt	tgatgcgctg	gcagtgttcc	540
tgagacgttt	gcattcgatt	cctgtttgta	attgtccttt	taacagcgat	cgcgattttc	600
gtctcgctca	ggcgcaatca	cgaatgaata	atggtttggt	tgatgcgagt	gattttgatg	660
acgagcgtaa	tggctggcct	gttgaacaag	tctggaaaga	aatgcataaa	cttttgccat	720
tctcaccaga	ttcagtcgtc	actcatggtg	atttctcact	tgataacctt	atttttgacg	780
aggggaaatt	aataggttgt	attgatgttg	gacgagttgg	aatcgagac	cgataaccagg	840
atcttgccat	cctatggaac	tgccctgggtg	agttttctcc	ttcattacag	aaacgacttt	900
ttcaaaaata	tggatttgat	aatcctgata	tgaataaatt	gcagtttcat	ttgatgctcg	960
atgagttttt	ctaatacagaa	ttggttaatt	ggttgtaaca	ctggcagagc	attacgctga	1020
cttgacgaca	caacgacagc	tcatgaccaa	aatcccttaa	cgtgagtttt	cgttccactg	1080
agcgtcagac	cccgtagaaa	agatcaaagg	atcttcttga	gatccttttt	ttctgcgcgt	1140
aatctgctgc	ttgcaaacaa	aaaaaccacc	gctaccagcg	gtggtttggt	tgccggatca	1200
agagctacca	actctttttc	cgaaggtaac	tggtctcagc	agagcgcaga	taccaaatac	1260
tgttcttcta	gtgtagccgt	agttaggcca	ccacttcaag	aactctgtag	caccgcctac	1320
atacctcgct	ctgctaatac	tgttaccagt	ggctgctgcc			1360

<210> 82

<211> 269

<212> PRT

<213> Artificial Sequence

<220>

<223> mutant Kanamycin resistance gene

09965401.092504

<400> 82
Met Ser His Ile Gln Arg Glu Thr Ser Arg Pro Arg Leu Asn Ser Asn
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20 25 30
Gln Ser Gly Ala Thr Ile Tyr Arg Leu Tyr Gly Lys Pro Asp Ala Pro
35 40 45
Glu Leu Phe Leu Lys His Gly Lys Gly Ser Val Ala Asn Asp Val Thr
50 55 60
Asp Glu Met Val Arg Leu Asn Trp Leu Thr Glu Phe Met Pro Leu Pro
65 70 75 80
Thr Ile Lys His Phe Ile Arg Thr Pro Asp Asp Ala Trp Leu Leu Thr
85 90 95
Thr Ala Ile Pro Gly Lys Thr Ala Phe Gln Val Leu Glu Glu Tyr Pro
100 105 110
Asp Ser Gly Glu Asn Ile Val Asp Ala Leu Ala Val Phe Leu Arg Arg
115 120 125
Leu His Ser Ile Pro Val Cys Asn Cys Pro Phe Asn Ser Asp Arg Val
130 135 140
Phe Arg Leu Ala Gln Ala Gln Ser Arg Met Asn Asn Gly Leu Val Asp
145 150 155 160
Ala Ser Asp Phe Asp Asp Glu Arg Asn Gly Trp Pro Val Glu Gln Val
165 170 175
Trp Lys Glu Met His Lys Leu Leu Pro Phe Ser Pro Asp Ser Val Val
180 185 190
Thr His Gly Asp Phe Ser Leu Asp Asn Leu Ile Phe Asp Glu Gly Lys
195 200 205
Leu Ile Gly Cys Ile Asp Val Gly Arg Val Gly Ile Ala Asp Arg Tyr
210 215 220
Gln Asp Leu Ala Ile Leu Trp Asn Cys Leu Gly Glu Phe Ser Pro Ser
225 230 235 240
Leu Gln Lys Arg Leu Phe Gln Lys Tyr Gly Ile Asp Asn Pro Asp Met
245 250 255
Asn Lys Leu Gln Phe His Leu Met Leu Asp Glu Phe Phe
260 265

<210> 83
<211> 3987
<212> DNA
<213> Artificial Sequence

<220>
<223> plasmid pUK21-A2

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